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Comet 1886 *e* . . . (*Finlay*).

1886.		Cape Mean Time.	Comet – Star. Δα	Δδ	No. of Comps.	Obser-ver.	Comet's App. R.A.	Log. (p×Δ)	Comet's App. Decl.	Log. (p×Δ)	Red. to App. Place.		Star of Comp.
		h m s	m s	′ ″			h m s		° ′ ″		s	″	
Sept.	26	9 14 40·8	–1 29·21	+1 38·1	14·12	F	17 2 1·78	9·7046	–26 4 10·5	0·5069$_n$	+1·82	+ 4·2	1
	27	8 28 10·1	+0 49·66	–1 19·9	12·10	F	17 4 20·63	9·6628	–26 7 8·4	0·4266$_n$	+1·80	+ 4·3	1
	27	9 38 24·5	+0 56·56	–1 26·5	8·8	F	17 4 27·53	9·7220	–26 7 15·0	0·5528$_n$	+1·80	+ 4·3	1
	29	9 19 7·7	+1 55·16	–2 29·0	6·6	F	17 9 19·54	9·7129	–26 13 4·9	0·5247$_n$	+1·78	+ 4·5	2
	30	7 56 12·6	+0 25·06	–4 25·7	24·16	F	17 11 42·50	9·6253	–26 15 46·0	0·3690$_n$	+1·78	+ 4·7	3
Oct.	1	7 53 16·0	–0 5·93	+0 32·4	6·6	F	17 14 15·87	9·6231	–26 18 30·4	0·3647$_n$	+1·78	+ 4·8	4
	2	7 30 48·6		+1 54·2	0·4	F			–26 21 5·1	0·3212$_n$	+1·76	+ 4·8	5
	2	8 2 19·4	+2 31·03		15·0	F	17 16 53·96	9·6389			+1·76	+ 4·8	5
	5	7 57 55·6	+2 3·21	+2 5·4	10·8	F	17 24 59·05	9·6383	–26 28 1·4	0·3816$_n$	+1·75	+ 5·2	6
	10	7 43 26·3	+0 46·50	–0 25·3	4·4	F	17 39 22·17	9·6246	–26 36 19·3	0·3597$_n$	+1·74	+ 6·0	7
	15	7 39 44·4	+0 13·67	–2 11·6	16·12	F		9·6260		0·3594$_n$	+1·72	+ 6·7	8
	18	7 42 50·8	+0 36·83	+1 42·1	20·12	F	18 4 48·96	9·6337	–26 38 6·7	0·3711$_n$	+1·71	+ 7·2	9
	19	7 42 36·9	–0 57·66	+0 25·7	16·12	F		9·6339		0·3715$_n$	+1·72	+ 7·4	10
	21	8 0 49·3	–1 54·99	–4 3·8	16·12	F	18 15 10·78	9·6600	–26 34 12·9	0·4119$_n$	+1·72	+ 7·7	11
	21	8 0 49·3	–2 24·65	–1 16·4	16·12	F	18 15 10·78	9·6600	–26 34 12·0	0·4119$_n$	+1·72	+ 7·7	12
	22	8 15 25·9	+1 9·33	+0 45·1	23·12	F	18 18 44·74	9·6774	–26 32 10·4	0·4422$_n$	+1·70	+ 7·8	12
	26	7 52 23·1	–1 28·60	+3 14·9	10·8	F	18 33 17·51	9·6504	–26 20 39·8	0·4022$_n$	+1·71	+ 8·4	13
	29	7 46 36·0		+1 0·7	0·4	F			–26 7 46·9	0·3958$_n$	+1·70	+ 8·8	14
	29	8 3 15·6	+0 34·82		10·0	F	18 44 44·74	9·6645			+1·70	+ 8·8	14
	30	7 42 52·9		+1 55·0	0·6	F			–26 2 40·7	0·3885$_n$	+1·70	+ 9·0	15
	30	8 3 19·9	–0 7·99		14·0	F	18 48 38·33	9·6634			+1·70	+ 9·0	15

1886.		Mean Time.	Δα	Δδ	Comps.	ver.	App. R.A.	(p×Δ)	App. Dec.	(p×Δ)	Place.		Comp.
		h m s	m s	′ ″			h m s		° ′ ″		s	″	
Nov.	17	8 25 22·9	+0 50·63	−0 10·5	11·8	F	20 6 16·29	9·6701	−22 56 54·4	0·4994$_n$	+1·70	+11·7	17
	19	8 8 4·2	+0 32·73	−2 19·5	16·12	F	20 15 36·22	9·6471	−22 23 45·8	0·4787$_n$	+1·72	+12·1	18
	22	8 14 26·6	−0 45·30	+1 3·1	24·12	F	20 29 57·16	9·6490	−21 28 47·5	0·4965$_n$	+1·74	+12·6	19
	23	8 7 41·4	−0 11·38	+3 38·9	20·12	F	20 34 46·43	9·6386	−21 9 13·2	0·4905$_n$	+1·74	+12·7	20
	25	8 9 12·6	−0 28·86	−2 12·4	16·12	F	20 44 33·66	9·6360	−20 27 14·1	0·4996$_n$	+1·76	+13·0	21
	26	8 8 58·8	−0 20·75	−4 40·3	16·12	F	20 49 28·77	9·6335	−20 5 15·9	0·5030$_n$	+1·74	+13·0	22
	29	8 12 24·6	+0 26·75	+0 19·7	16·12	F	21 4 24·98	9·6308	−18 54 39·2	0·5182$_n$	+1·78	+13·4	23
Dec.	4	8 30 36·8		+3 34·0	0·8	F			−16 42 39·4	0·5569$_n$	+1·81	+14·0	24
	6	8 50 4·2	+0 7·71	+1 18·1	20·12	F	21 40	9·6568	−15 47	0·5821$_n$	+1·84	+14·3	25
	13	8 34 48·4	−1 31·33	+0 48·2	12·8	F	22 16 7·41	9·6235	−12 3 42·7	0·5987$_n$	+1·92	+14·9	26
	15	8 36 46·0	−1 18·35	+0 38·1	22·12	F	22 26 27·86	9·6217	−10 55 42·1	0·6091$_n$	+1·97	+15·0	27
	16	8 27 23·6	−0 25·81	+3 59·0	12·8	F	22 31 36·10	9·6067	−10 21 13·5	0·6086$_n$	+1·98	+15·1	28
	17	8 30 20·5	−0 16·05	−1 24·1	18·12	F	22 36 46·97	9·6086	− 9 46 7·6	0·6150$_n$	+2·00	+15·2	29
	18	8 34 51·6	−0 26·72	+0 19·4	18·12	F	22 41 56·86	9·6121	− 9 10 38·5	0·6219$_n$	+2·01	+15·2	30
	23	8 46 45·6	−1 53·18	+0 6·3	14·12	F	23 7 38·95	9·6163	− 6 9 9·3	0·6490$_n$	+2·11	+15·4	31
	27	8 50 22·1	+0 50·44	−2 45·6	16·12	F	23 27 56·42	9·6138	− 3 41 14·2	0·6668$_n$	+2·18	+15·5	32
	28	8 47 1·9	−0 27·83	−0 24·6	16·12	F	23 32 (56)	9·6080	− 3 5	0·6706$_n$	+2·21	+15·4	33

Notes.

Sept. 26. Faint, round, very slightly more condensed towards the centre.

27. The second set of observations is the better: during the first set the comet was approaching a star, 11 mag., which completely overpowered it at last.

Oct. 1. Hazy night: comet close enough to the comparison star to be rendered rather difficult.

5, 10. Moonlight Oct. 26. Hazy.

Nov. 25. Strong S.E. wind: the central condensation seemed somewhat elongated in position-angle 165° ±, but the definition was very bad this night.

29. Very bad definition: strong wind. Dec. 4. Chronograph failed: signals not recorded.

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Comet 1886 *e* . . . (*Finlay*).

Adopted Mean Places of Comparison Stars.

Comp. Star No.	R.A. 1886·0 h	m	s	Declination 1886·0 °	′	″	Authority.
1	17	3	29·17	−26	5	52·8	= A.O. 16394 comp. with C.Z. 373, 550.
2	17	7	22·60	−26	10	40·4	9½ mag. Equat. diff. from ∗ 1.
3	17	11	15·66	−26	11	25·0	½ (C.Z. 728 + Equat. diff. from C.Z. 934).
4	17	14	20·02	−26	19	7·6	C.Z. xvii. 927.
5	17	14	21·17	−26	23	4·1	C.Z. xvii. 928.
6	17	22	54·09	−27	30	12·0	9½ mag. = C.Z. 1430 $\begin{cases} +1^{\rm m}\ 10^{\rm s}{\cdot}36. \\ +7'\ 43''{\cdot}4. \end{cases}$
7	17	38	33·93	−26	36	0·0	9½ mag. = A.O. 17142 $\begin{cases} +0^{\rm m}\ 51^{\rm s}{\cdot}30. \\ -3'\ 52''{\cdot}3. \end{cases}$
8	17	54	(37)	−26	38		9½ mag. = ∗ *a* $\begin{cases} -3^{\rm m}\ 37^{\rm s}{\cdot}05. \\ +0'\ 46''{\cdot}9. \end{cases}$
a	17	58	(14)	−26	39		9 mag.
9	18	4	10·42	−26	39	56·0	Wash. Zones 100–56 and 36–93.
10	18	9	(10)	−26	37		10 mag. = ∗ *b* $\begin{cases} -0^{\rm m}\ 59^{\rm s}{\cdot}90. \\ -1\ 9''{\cdot}3. \end{cases}$
b	18	10	(10)	−26	36		9 mag.
11	18	17	4·05	−26	30	16·8	½ (C.Z. 1037 + Yarnall).
12	18	17	33·71	−26	33	3·3	½ (C.Z. 1071 + Yarnall).
13	18	34	44·40	−26	24	3·1	9½ mag. = C.Z. 1732 $\begin{cases} +5^{\rm m}\ 0^{\rm s}{\cdot}70. \\ -1'\ 15''{\cdot}4. \end{cases}$
14	18	44	8·22	−26	8	56·4	C.Z. xviii. 2438.
15	18	48	44·62	−26	4	44·7	Wash. Zones 127–24.
16	19	48	7·00	−23	56	51·1	9½ mag. = C.Z. xix. 2002 $\begin{cases} -0^{\rm m}\ 36^{\rm s}{\cdot}90. \\ +3'\ 38''{\cdot}6. \end{cases}$
17	20	5	23·96	−22	56	55·6	9½ mag. = A.O. 20264 $\begin{cases} +3^{\rm m}\ 19^{\rm s}{\cdot}75. \\ +4'\ 25''{\cdot}2. \end{cases}$
18	20	15	1·77	−22	21	38·4	9½ mag. = A.O. 20436 $\begin{cases} -0^{\rm m}\ 23^{\rm s}{\cdot}60. \\ -2'\ 44''{\cdot}6. \end{cases}$
19	20	30	40·72	−21	30	3·2	9½ mag. = ∗ *c* $\begin{cases} -1^{\rm m}\ 7^{\rm s}{\cdot}75. \\ -6'\ 41''{\cdot}1. \end{cases}$
c	20	31	48·47	−21	23	22·1	½ (A.O. 20678 + Wash. 1860).
20	20	34	56·07	−21	13	4·8	(= A.O. 20744) Wash Zones (2 obs.).
21	20	45	0·76	−20	25	14·7	10½ mag. Equat. diff. from ∗ *d*.
d	20	40	6·16	−20	26	45·7	9¼ mag. Wash. Zones 190.
22	20	49	47·78	−20	0	48·6	9½ mag. Equat. diff. from ∗ *e*.
e	20	45	44·88	−20	4	12·8	Radcliffe Obs. 1881.
23	21	3	56·45	−18	55	12·3	A.O. 21180.
24	21	28	55·51	−16	46	27·4	9 mag. Equat. diff. from ∗ *f*.
f	21	27	22·21	−16	42	15·7	(= A.O. 21468) Edinburgh Catalogue.
25	21	39	(59)	−15	48		9½ mag. = ∗ *g* $\begin{cases} -2^{\rm m}\ 26^{\rm s}{\cdot}45. \\ +1'\ 31''{\cdot}3. \end{cases}$
g	21	42	(25)	−15	50		9 mag.
6	22	17	36·82	−12	4	45·8	10 mag. Equat. diff. from ∗ *h*.
h	22	12	50·80	−12	7	38·7	½ (Schj. 9115 + Sant. 2507).
27	22	27	44·24	−10	56	35·2	9½ mag. Equat. diff. from ∗ *k*.

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Comp. Star No.	R.A. 1886·0.			Declination 1886·0.			Authority.
	h	m	s	°	′	″	
k	22	31	13·30	−10	51	39·1	½ (Yarnall 9932 + Sant. 2550).
28	22	31	59·93	−10	25	27·6	9½ mag. 1 Equat. diff. from ∗ *l*.
l	22	36	30·73	−10	30	50·7	(= Lal. 44394–5) Paris Obs. 1862.
29	22	37	1·02	− 9	44	58·7	½ (Schj + Santini).
30	22	42	21·57	− 9	11	13·1	9½ mag. Equat. diff. from ∗ *m*.
m	22	45	48·20	− 9	9	45·1	Schjellerup 9365.
31	23	9	30·02	− 6	9	31·0	10 mag. Equat. Diff. from ∗ *n*.
n	23	12	2·17	− 6	8	22·5	9 mag. Astr. Nach. lxxxvi. p. 215.
32	23	27	3·80	− 3	38	44·1	Karlsruhe Zones (Valentiner).
33	23	33	(22)	− 3	5		9½ mag.

Observations of Winnecke's Comet, 1886, *made at Windsor, New South Wales.* By John Tebbutt.

Notice of the discovery of this comet at the Cape of Good Hope was received here on August 25. The comet was found on the same evening, and observations of it continued as long as possible. As it was at no time bright enough to admit of observation in an illuminated field, and there were no means of illuminating the threads of the filar micrometer on a dark field, I was obliged to have recourse to a dark field micrometer. Of the accompanying positions those for August were determined with a square bar-micrometer on the Cooke 4½-inch Equatorial. On Sept. 1 a ring-micrometer, whose mean radius = 242″·6, was fitted to the recently mounted Grubb 8-inch Equatorial, and with this instrument observations were continued till Sept. 18, when the square bar-micrometer hitherto employed with the 4½-inch telescope was adapted to the large instrument. With this micrometer, whose adjustment and errors of form were carefully attended to, the remaining positions were obtained. The comet was at no time a good object for observation, and in consequence of either bright moonlight or haze, such was particularly the case on Sept. 2, 7, 10, 11, 12; Oct. 6, 7, 11, 25 and 29. On Oct. 25 it approached so close to star No. 59 as to be observed with the greatest difficulty. On the whole I think the positions yielded by the square bar-micrometer will be found more satisfactory than those obtained with the ring. Finlay's comet was observed with the large Equatorial from Oct. 8 to Dec. 30.

I may add that the tail of a large comet was visible on the W.S.W. horizon immediately after sunset on the evenings of the 19th, 20th, and 21st inst. at several places in the neighbouring colonies. At Windsor, however, the past few days have been characterised by dense cloud, with rain, so that no opportunity whatever was afforded for getting even a glimpse of the stranger.